

WHAT IS CLAIMED IS:

1. An apparatus for compressing a stream of data signals into a compressed
5 stream of code signals, said compression apparatus comprising:

storage means for storing strings of the data signals encountered in said
stream of data signals in a dictionary, said stored strings each having a corresponding code
signal associated therewith;

means for searching said stream of data signals by comparing said stream to
10 said stored strings to determine the longest match therewith;

means for searching said remaining stream of data signals by comparing
said remaining stream to said stored strings to determine the longest match therewith;

means for inserting into said dictionary, for storage therein, an extended
string comprising said longest match with said stream of data signals extended by said
15 longest match with said remaining stream of said data signals; and

means for assigning a code signal corresponding to said stored extended
string.

2. The compression apparatus of claim 1, further comprising means for
repeating the compression of said stream for all of the data signals therein.

20 3. The compression apparatus of claim 1, further comprising:
means for determining if said dictionary is full; and
means for changing a coding size of said coding signals based on the
determination of whether the dictionary is full.

4. The compression apparatus of claim 3, wherein the coding size of said
25 coding signals is increased when it is determined that the dictionary is full.

5. The compression apparatus of claim 1, further comprising means for predefining coding signals based on the type of data signals being compressed.

6. The compression apparatus of claim 5, wherein the coding signals are predefined as varying length zero coding signals.

5 7. A method for compressing a stream of data signals into a compressed stream of code signals, said compression method comprising:

(a) storing strings of the data signals encountered in said stream of data signals in a dictionary, said stored strings each having a corresponding code signal associated therewith;

10 (b) searching said stream of data signals by comparing said stream to said stored strings to determine the longest match therewith;

(c) searching said remaining stream of data signals by comparing said remaining stream to said stored strings to determine the longest match therewith;

15 (d) inserting into said dictionary, for storage therein, an extended string comprising said longest match with said stream of data signals extended by said longest match with said remaining stream of said data signals; and

(e) assigning a code signal corresponding to said stored extended string.

8. The compression method of claim 7, further comprising repeating steps (b) through (e) for all of the data signals in the stream.

20 9. The compression method of claim 7, further comprising:

determining if said dictionary is full; and

changing a coding size of said coding signals based on the determination of whether the dictionary is full.

10. The compression method of claim 9, wherein the coding size of said coding signals is increased when it is determined that the dictionary is full.

11. The compression method of claim 7, further comprising predefining coding signals based on the type of data signals being compressed.

5 12. The compression method of claim 11, wherein the coding signals are predefined as varying length zero coding signals.

13. A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for compressing a stream of data signals into a compressed stream of code signals, said
10 method comprising:

(a) storing strings of the data signals encountered in said stream of data signals in a dictionary, said stored strings each having a corresponding code signal associated therewith;

(b) searching said stream of data signals by comparing said stream to said
15 stored strings to determine the longest match therewith;

(c) searching said remaining stream of data signals by comparing said remaining stream to said stored strings to determine the longest match therewith;

(d) inserting into said dictionary, for storage therein, an extended string comprising said longest match with said stream of data signals extended by said longest
20 match with said remaining stream of said data signals; and

(e) assigning a code signal corresponding to said stored extended string.

14. The program storage device of claim 13, wherein the method further comprising repeating steps (b) through (e) for all of the data signals in the stream.

15. The program storage device of claim 7, wherein the method further comprising:

determining if said dictionary is full; and

changing a coding size of said coding signals based on the determination of
5 whether the dictionary is full.

16. The program storage device of claim 15, wherein the coding size of said coding signals is increased when it is determined that the dictionary is full.

17. The program storage device of claim 13, wherein the method further comprising predefining coding signals based on the type of data signals being compressed.

10 18. The program storage device of claim 11, wherein the coding signals are predefined as varying length zero coding signals.

19. A computer program product embodied in a computer-readable medium for compressing a stream of data signals into a compressed stream of code signals, said computer program product comprising:

15 computer readable program code means for storing strings of the data signals encountered in said stream of data signals in a dictionary, said stored strings each having a corresponding code signal associated therewith;

computer readable program code means for searching said stream of data signals by comparing said stream to said stored strings to determine the longest match
20 therewith;

computer readable program code means for searching said remaining stream of data signals by comparing said remaining stream to said stored strings to determine the longest match therewith;

computer readable program code means for inserting into said dictionary,
25 for storage therein, an extended string comprising said longest match with said stream of

data signals extended by said longest match with said remaining stream of said data signals; and

computer readable program code means for assigning a code signal corresponding to said stored extended string.

5 20. The computer program product of claim 19, further comprising computer readable program code means for repeating the compression of the data stream for all of the data signals therein.

21. The computer program product of claim 19, further comprising:
computer readable program code means for determining if said dictionary is
10 full; and

computer readable program code means for changing a coding size of said coding signals based on the determination of whether the dictionary is full.

22. The computer program product of claim 21, wherein the coding size of said coding signals is increased when it is determined that the dictionary is full.

15 23. The computer program product of claim 19, further comprising computer readable program code means for predefining coding signals based on the type of data signals being compressed.

24. The computer program product of claim 23, wherein the coding signals are predefined as varying length zero coding signals.

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